



产品编码 P/N	PSBHAA1608(0603)~3225(1210)	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E4991
产品系列 Series	贴片大电流磁珠	测试频率 TEST FREQUENCY	100MHZ

客户名称

Customer

客户编码

Customer P/N

产品系列

Series

贴片大电流磁珠

SMD High Current Bead

产品编码

Supply P/N

: PSBHAA1608(0603)~3225(1210)

发版号

Version

A3.0

承认日期

Endorsement Date

2025-4-15

备注

Note

谱罗德电子科技（深圳）有限公司 PuLuoDe Electronic Technology (Shenzhen) Co. LTD	
制作 APPROVED	Ben
审查 CHECKED	Yuki
确认 PREPARED	Peter

客户承认

Customer Approval

客户签章



A3.0

修订记录
REVISION RECORD



产品编码 P/N	PSBHAA1608(0603)~3225(1210)	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E4991
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Version	REVISION ITEM	BEFORE REVISION	AFTER REVISION	DATE
A3.0	First Version			2025-4-15

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产品特点

Features

- ❑ 非晶复合材料弥补磁珠在150KHZ~300MHZ频段滤波效果差的特性
Amorphous composite materials make up for the poor filtering effect of beads in the 150KHZ~300MHZ frequency band
- ❑ 采用绕线工艺，大大提升磁珠的耐电流特性
The winding process greatly improves the current of the beads
- ❑ 高饱和特性电流负载后阻抗衰减低，带来更好的滤波效果
The beads have good saturation characteristics, low impedance attenuation after load current and better filtering effect
- ❑ 全新非叠层工艺避免了磁珠内部断层失效风险，大大提升了磁珠的可靠性
The one-piece molding structure reduces the risk of internal broken beads and greatly improves the reliability of the beads.
- ❑ 超小超薄的结构减少PCB的占用面积
Takes up less PCB real estate and save more power



编码解释

Code interpretation

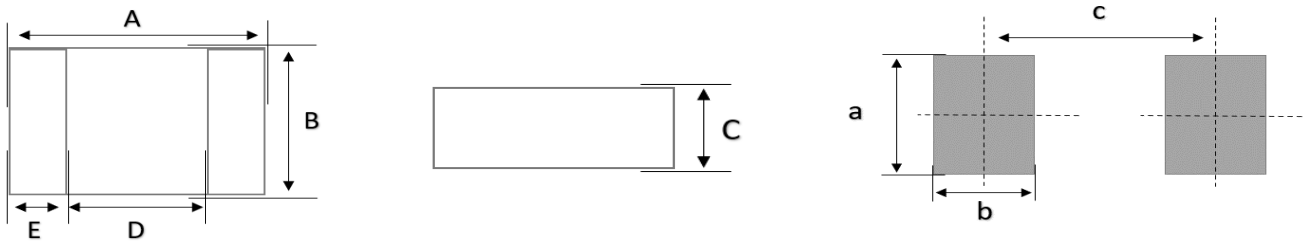
PSBHAA	160808	-	681	S	T130
<u>类别码</u>	<u>尺寸系列</u>		<u>系列码</u>	<u>公差</u>	<u>电流</u>
Category code	Dimension		Inductance	Tolerance	Current

- ◎ 规格参数基于环境温度25℃取得
All test Data is referenced to 25℃ ambient
- ◎ 电感工作环境温度：-40℃ ~ 125℃
Operating temperature range -40 °C to +125 °C
- ◎ 加载额定电流) 会使电感温度上升大约 40℃ (电感初始温度+上升温度=电感最终温度)
Typical rated current would cause an approximately ΔT of 40℃
- ◎ 务必考虑最终的产品设计，元器件布局，线路板走线，以及使用环境过程中，电感最终温度不得超过125℃
The operating temperature of inductance do not exceed 125℃
- ◎ 使用电感时，请查阅第15页注意事项
The announcements is on page 16



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封装尺寸
Dimension (mm)



系列	封装尺寸 Dimension					焊盘尺寸 Land Pattern		
Series	A	B	C	D	E	a	b	c
160808(0603)	1.6±0.2	0.8±0.2	0.80Max.	0.6 Typ	0.50±0.2	0.9	0.6	1.1

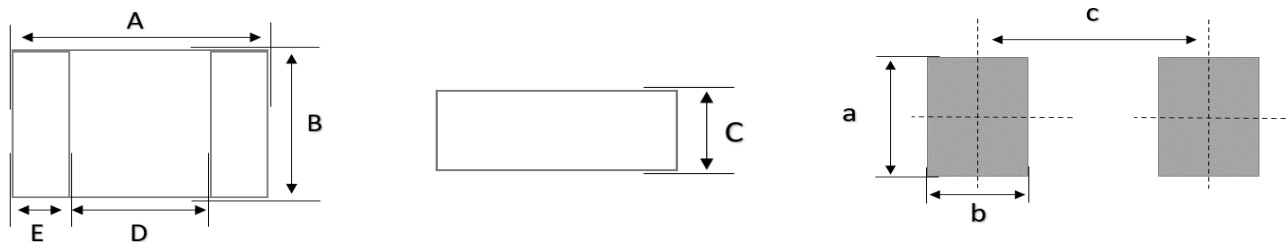
1608 Series

产品编码 P/N	@ 25 °C Ambient Temperture				
	阻抗 Impedance	公差 Tolerance	DCR mΩ	额定电流 (IRMS) A	峰值阻抗 Peak impedance
	Ω @100MHZ	±	Max	ΔT≈40℃	Ω Typ(参考)
PSBHAA160808H-121T050	120	25%	40	5	420Ω @422MHZ
PSBHAA160808H-151T052	150	25%	24	5.2	400Ω @201MHZ
PSBHAA160808H-251T040	250	25%	35	4	500Ω @156MHZ
PSBHAA160808H-301T042	300	25%	45	4.2	620Ω @156MHZ
PSBHAA160808H-501T025	500	25%	63	2.5	720Ω @120MHZ
PSBHAA160808H-801T024	800	25%	130	2.4	1.2KΩ @123HZ
PSBHAA160808H-102T023	1000	25%	115	2.3	1.2KΩ @78MHZ
PSBHAA160808-751T017	750	25%	285	1.7	2KΩ @65MHZ
PSBHAA160808-531T018	530	25%	260	1.8	2.2KΩ @58MHZ
PSBHAA160808-601T010	600	25%	600	1	5KΩ @45MHZ
PSBHAA160808-471T010	470	25%	700	1	4.7KΩ @39MHZ
PSBHAA160808-381T006	380	25%	1600	0.6	4.5KΩ @26MHZ



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封装尺寸
Dimension (mm)



系列	封装尺寸 Dimension					焊盘尺寸 Land Pattern		
Series	A	B	C	D	E	a	b	c
201210 (0805)	2.0±0.2	1.2±0.2	1.0Max.	0.6 Typ	0.70±0.2	1.3	0.8	1.3

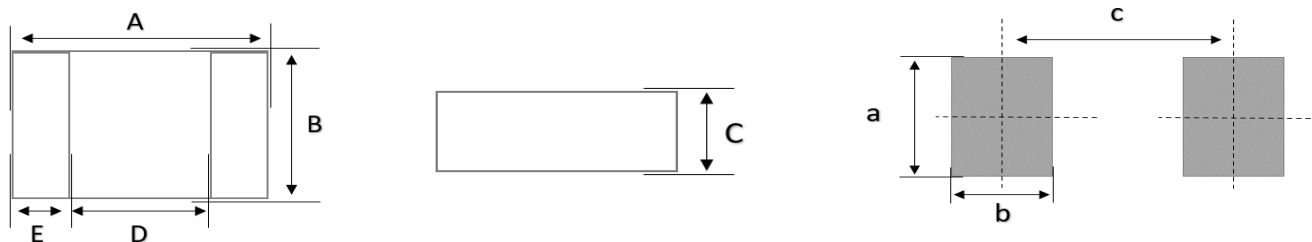
2012 Series

产品编码 P/N	@ 25 °C Ambient Temperture				
	阻抗 Impedance	公差 Tolerance	DCR mΩ	额定电流 (IRMS) A	峰值阻抗 Peak impedance
	Ω @100MHZ	±	Max	ΔT≈40℃	Ω Typ(参考)
PSBHAA201210H-068T100	68	20%	13	10	280Ω @344MHZ
PSBHAA201210H-151T070	150	20%	22	7	400Ω @200MHZ
PSBHAA201210H-251T060	250	20%	16	6	420Ω @150MHZ
PSBHAA201210H-471T070	470	20%	20	7	540Ω @110MHZ
PSBHAA201210H-601T053	600	20%	31	5.3	620Ω @110MHZ
PSBHAA201210H-681T040	680	20%	55	4	1.4KΩ @78MHZ
PSBHAA201210-551T031	550	20%	85	3.1	2.1KΩ @65MHZ
PSBHAA201210-361T018	360	20%	260	1.8	3.5KΩ @39MHZ
PSBHAA201210-301T015	300	20%	520	1.5	4.5KΩ @26MHZ
PSBHAA201210-221T011	220	20%	660	1.1	2.6KΩ @19MHZ



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封装尺寸
Dimension (mm)



系列	封装尺寸 Dimension					焊盘尺寸 Land Pattern		
Series	A	B	C	D	E	a	b	c
252012 (1008)	2.5±0.2	2.0±0.2	1.2Max.	0.8 Typ	0.85±0.2	2.1	0.95	1.65
322512 (1210)	3.2±0.2	2.5±0.2	1.2MAX	1.1 Typ	1.05±0.2	2.5	1.1	2.1

2520~3225 Series

产品编码 P/N	@ 25 °C Ambient Temperture				
	阻抗	公差	DCR	额定电流 (IRMS)	峰值阻抗
	Impedance	Tolerance	mΩ	A	Peak impedance
	Ω @100MHZ	±	Max	ΔT≈40℃	Ω Typ(参考)
PSBHAA252012H-600T140	60	20%	4.8	14	200Ω @325MHZ
PSBHAA252012H-900T090	90	20%	11	9	300Ω @221MHZ
PSBHAA252012H-181T090	180	20%	10	9	420Ω @175MHZ
PSBHAA252012H-421T080	420	20%	12	8	520Ω @123MHZ
PSBHAA252012H-681T075	680	20%	13	7.5	707Ω @98MHZ
PSBHAA252012-421T065	420	20%	18	6.5	2.9KΩ @79MHZ
PSBHAA252012-251T063	250	20%	23	6.3	780Ω @58MHZ
PSBHAA252012-361T058	360	20%	22	5.8	1.4KΩ @65MHZ
PSBHAA252012-221T036	220	20%	60	3.6	3.3kΩ @39MHZ
PSBHAA322512H-600T120	60	20%	7	12	320Ω @325MHZ
PSBHAA322512H-181T110	180	20%	8	11	420Ω @162MHZ
PSBHAA322512H-601T090	600	20%	14	9	723Ω @117MHZ
PSBHAA322512-421T085	420	20%	11	8.5	770Ω @71MHZ
PSBHAA322512-551T080	550	20%	19	8	950Ω @78MHZ
PSBHAA322512-301T070	300	20%	15	7	1.2KΩ @65MHZ
PSBHAA322512-251T065	250	20%	21	6.5	1.4KΩ @58MHZ
PSBHAA322512-221T047	220	20%	44	4.7	1.9KΩ @45MHZ



阻抗曲线

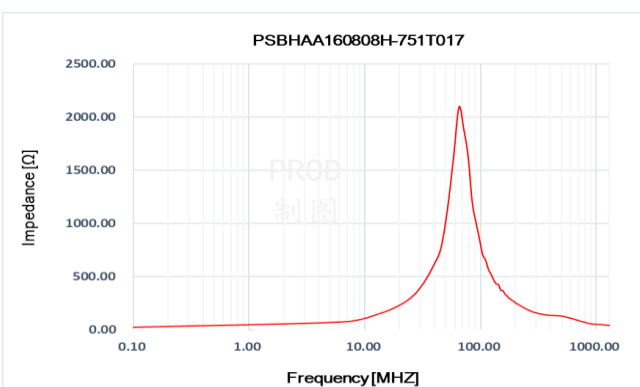
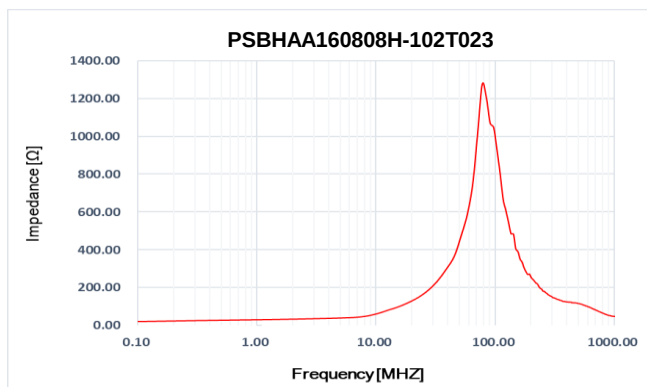
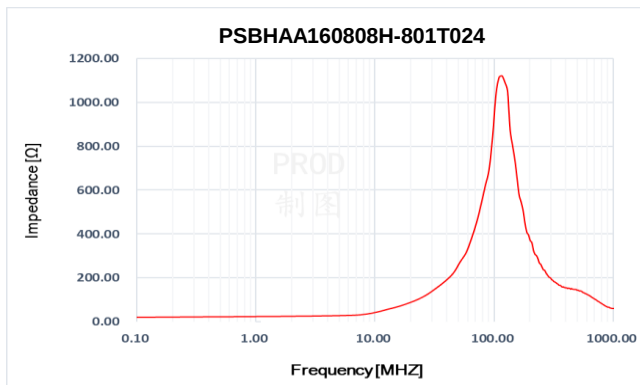
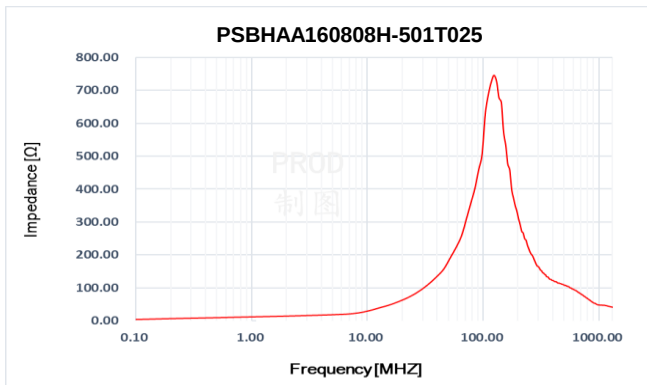
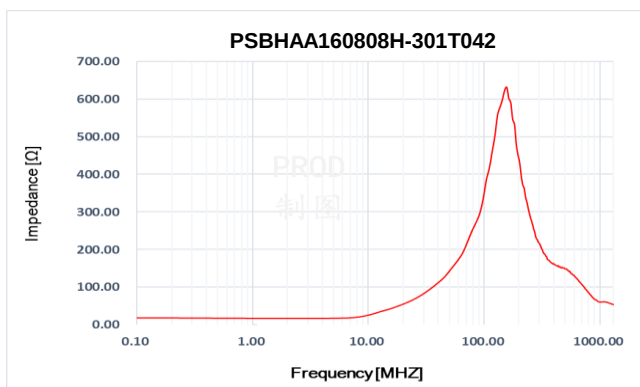
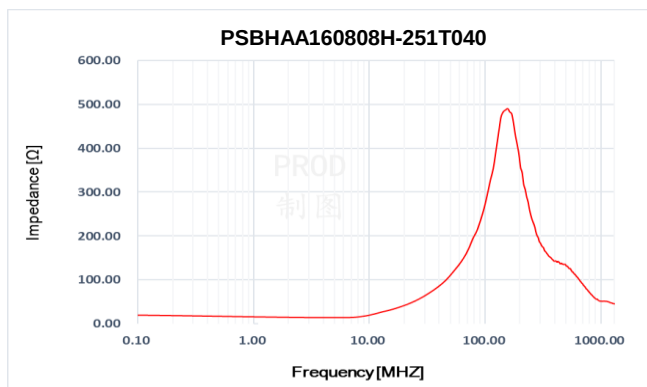
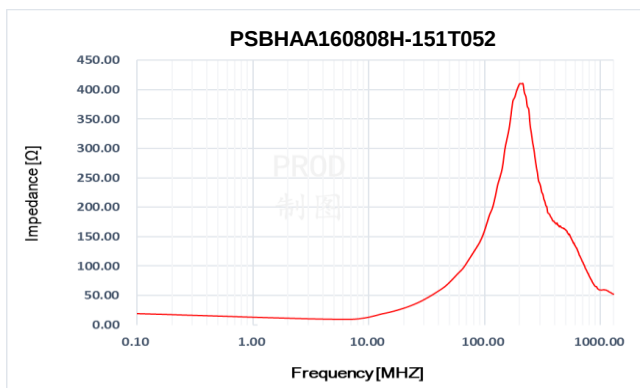
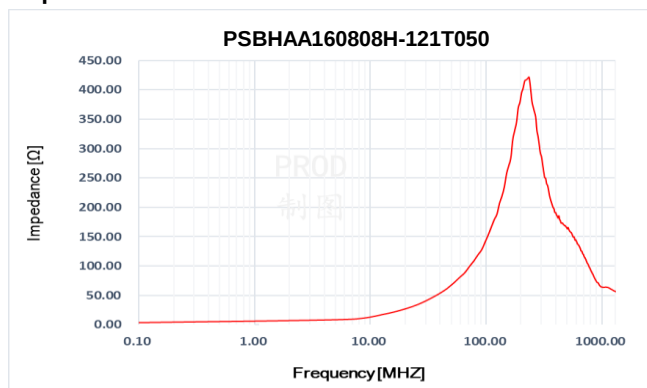
Impedance Curve



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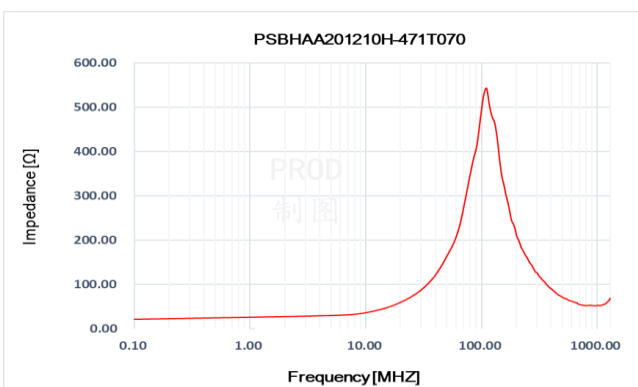
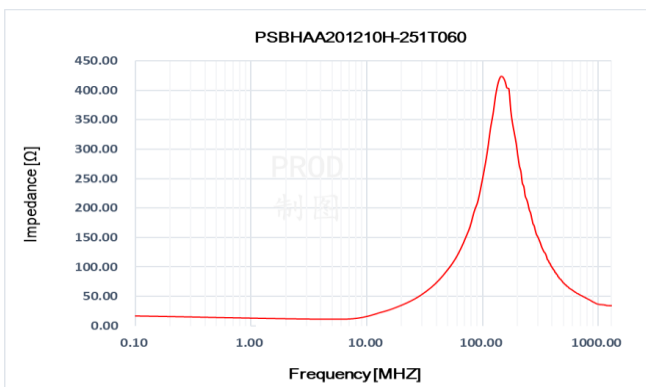
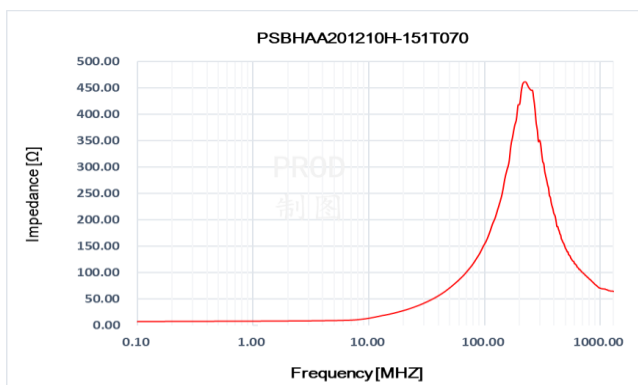
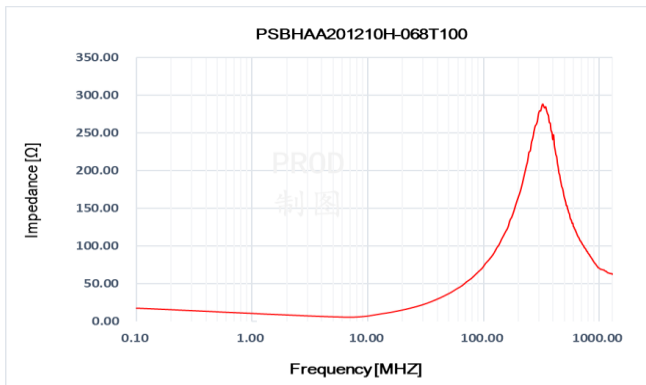
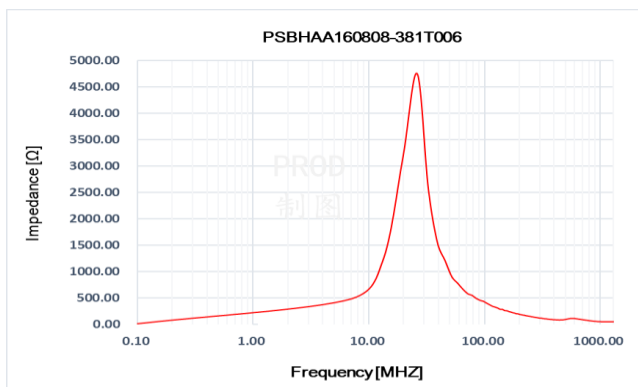
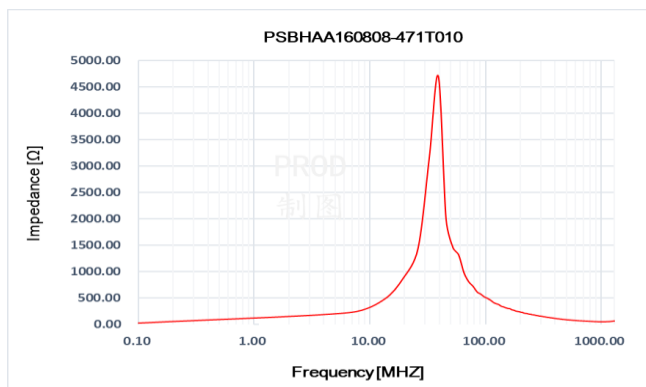
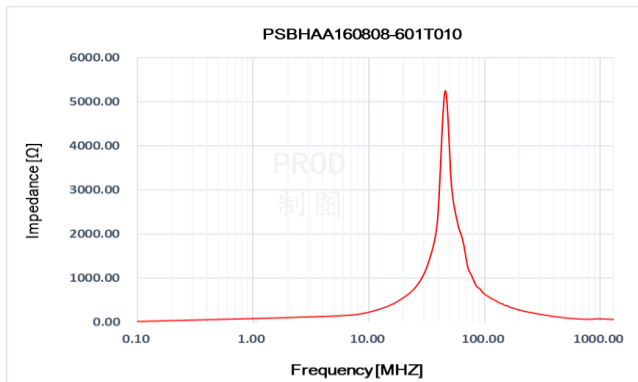
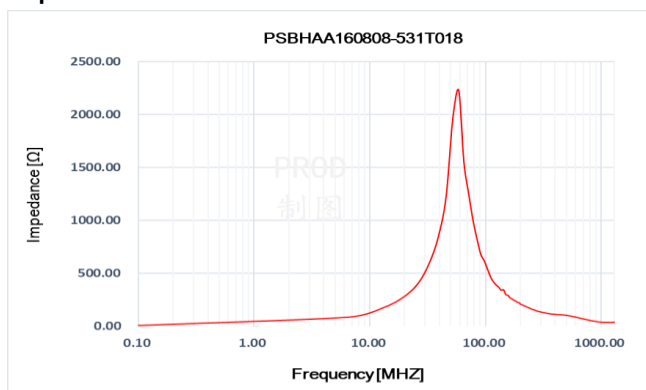
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阻抗曲线

impedance curve



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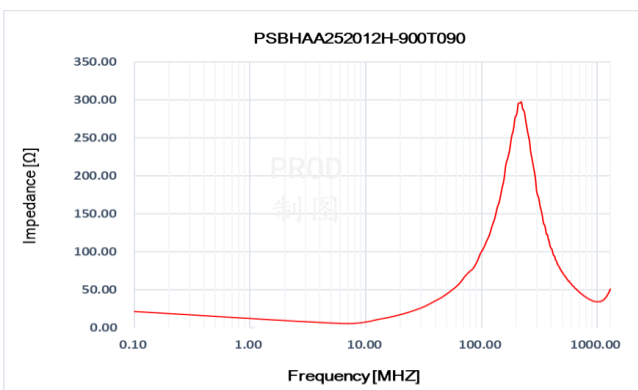
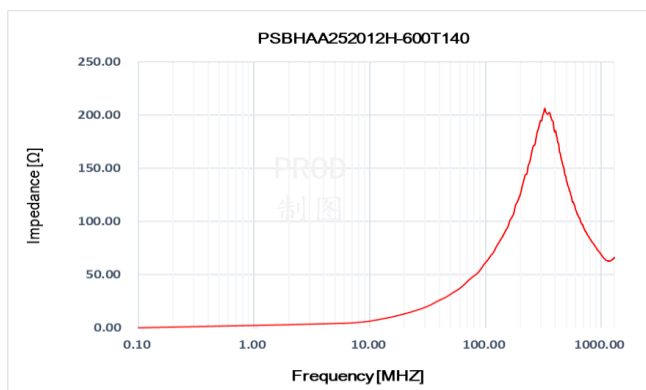
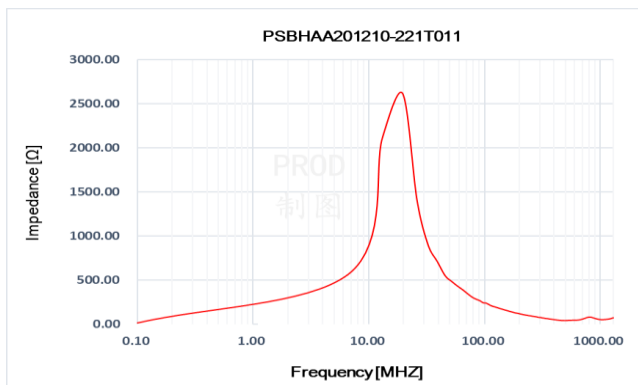
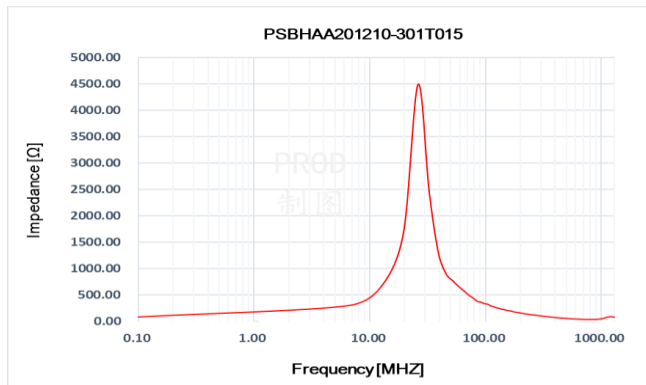
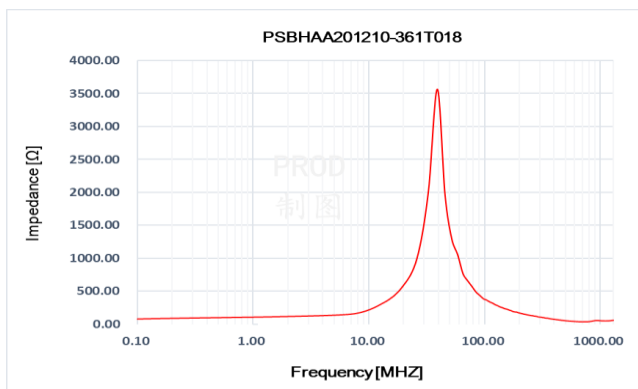
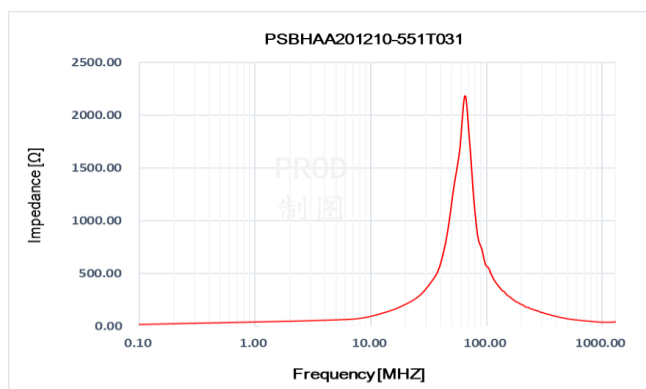
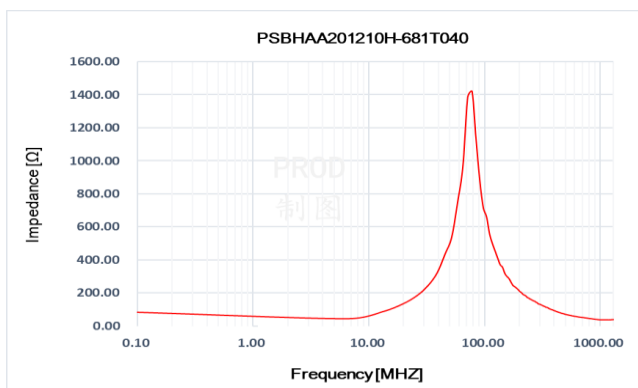
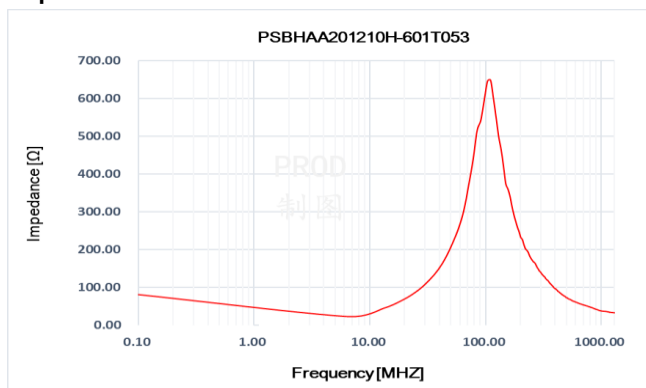
Impedance Curve



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阻抗曲线

impedance curve



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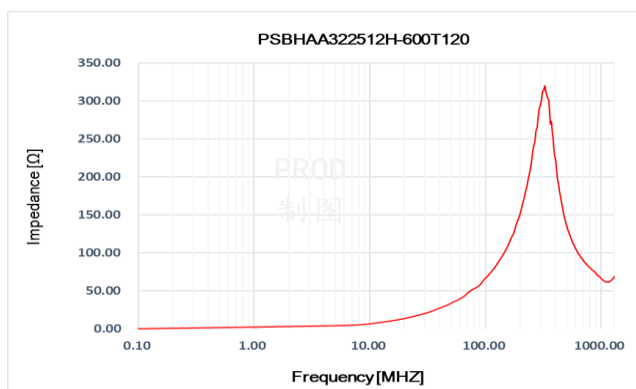
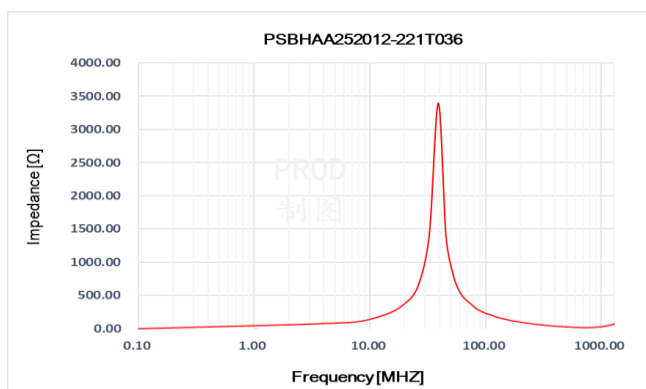
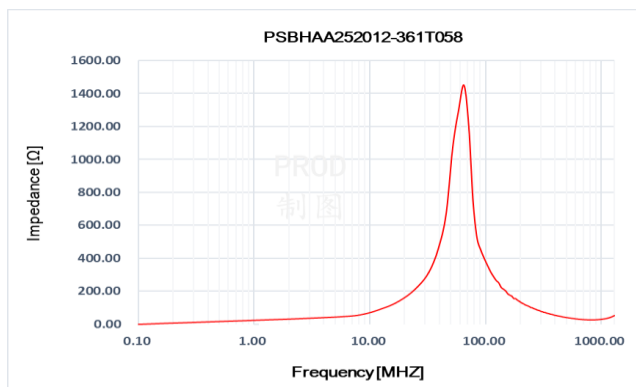
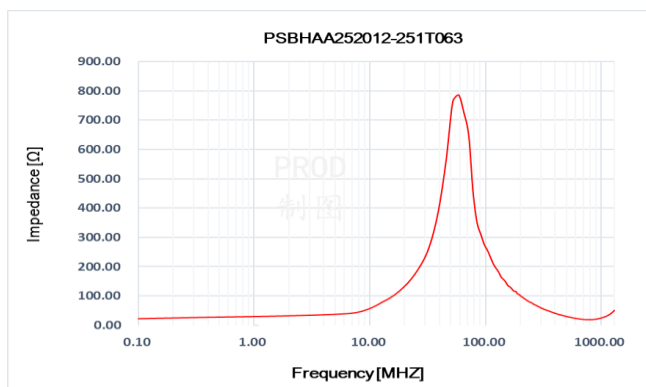
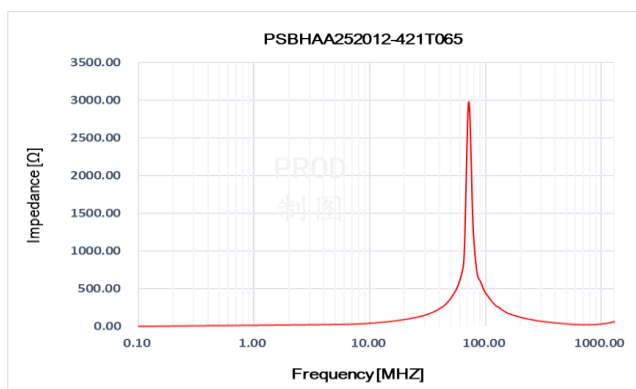
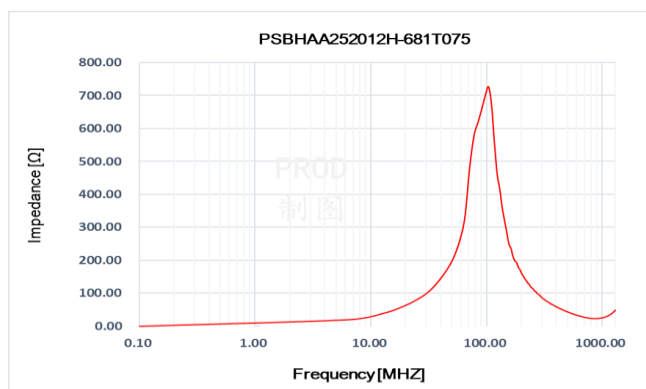
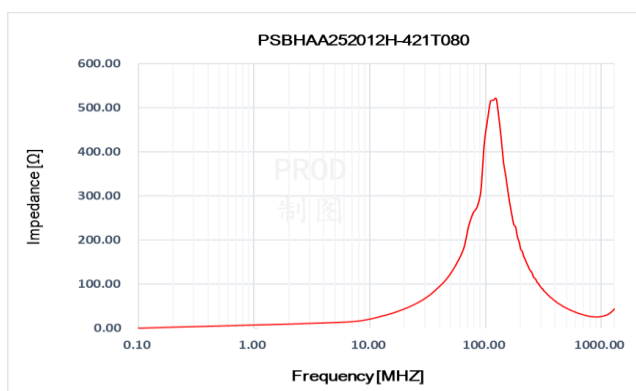
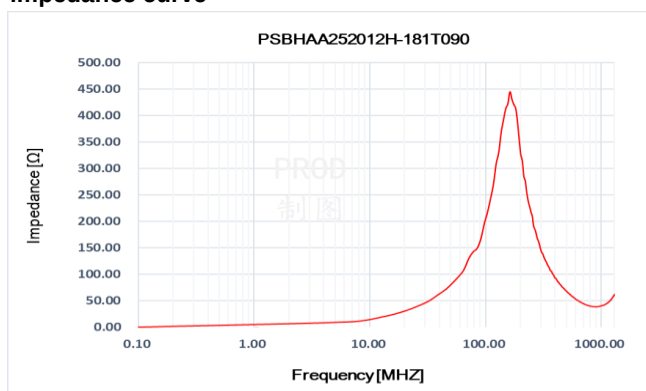
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impedance curve



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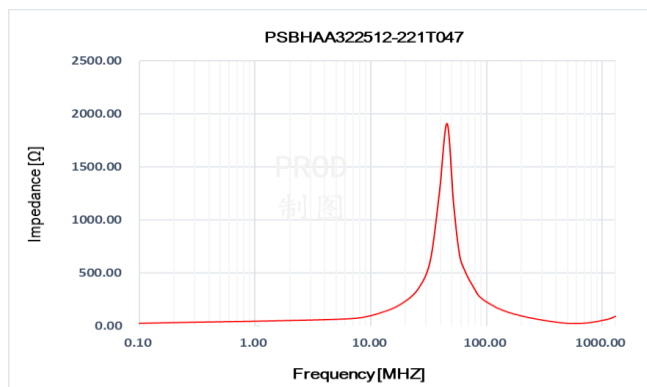
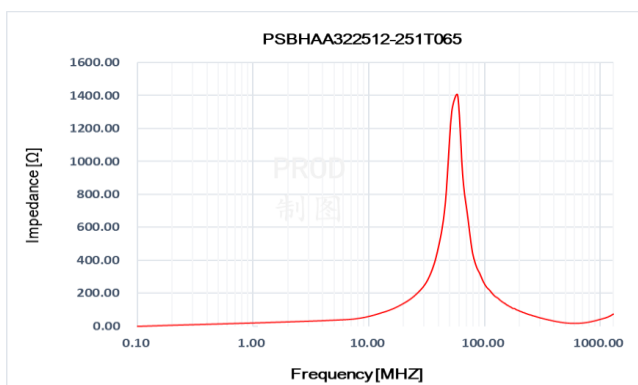
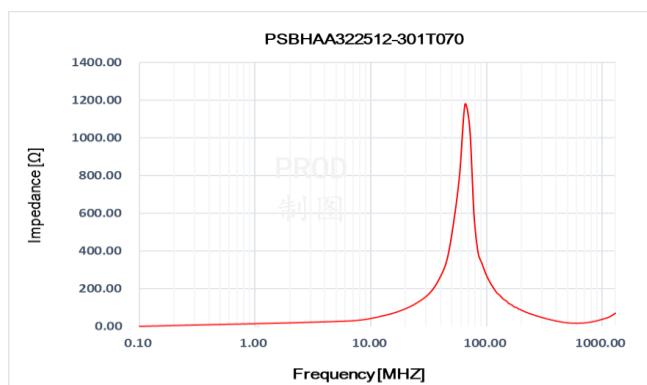
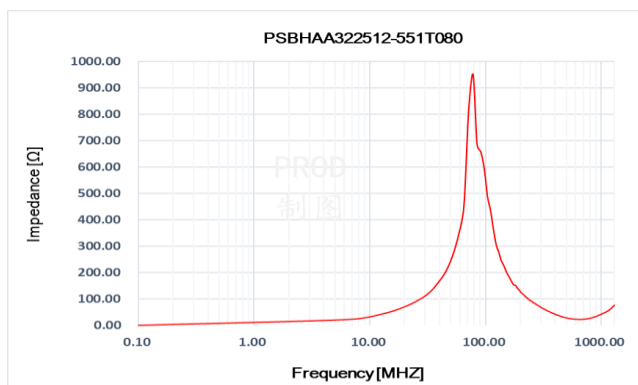
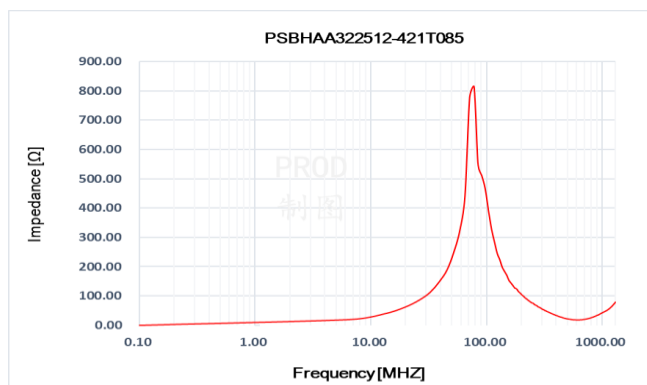
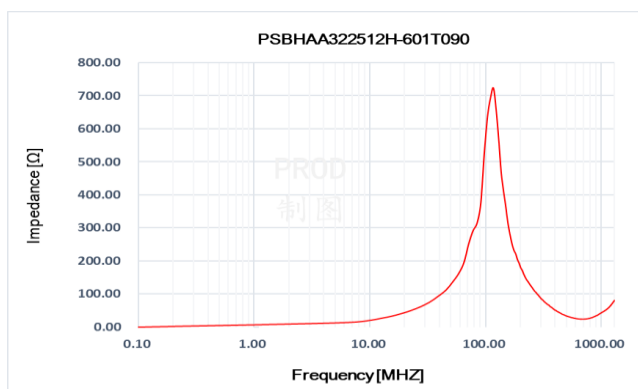
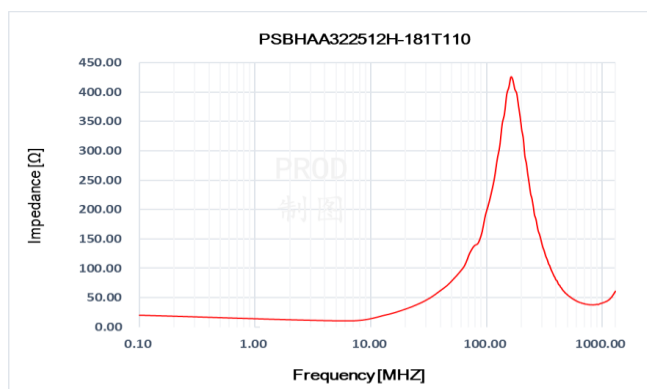
Impedance Curve



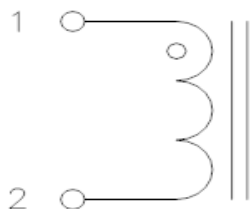
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电路结构
Connections

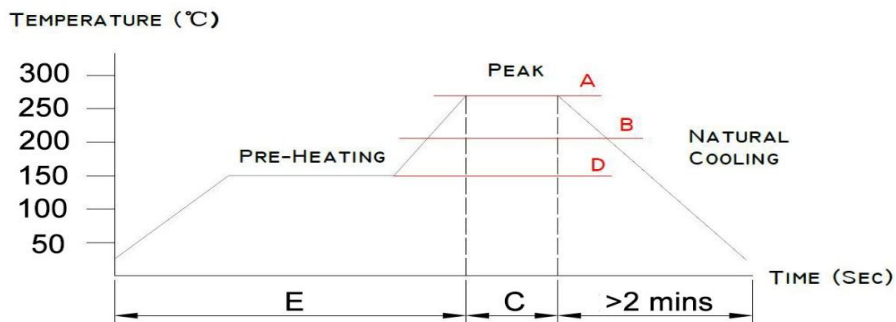
- ◎ 电感内置一组线圈
Inductor Contents one (1) Set(s) of Coil

实物图示
Picture

- ◎ 0430以下尺寸顶部不喷码印字
Size 1005~0410 series no marking

产品结构
Product Structure

- 1: 磁芯 / Core
2: 电极 / Electrode
3: 线圈 / coil

焊接温度（推荐）
Recommended Soldering Temperature Graph

A	260°C
B	230°C
C	10 Sec
D	150°C
E	60~240 Sec



产品编码 P/N	PSBHAA1608(0603)~3225(1210)	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E4991
产品系列 Series	贴片大电流磁珠	测试频率 TEST FREQUENCY	100MHZ

机械可靠性测试

Mechanical Reliability

实验名称 ITEM	试验要求 Specification & Requirement	试验方法 Method Used
可焊性实验 Solderability	The surface of terminal/pin tested shall be covered with new solder by 95%	Solder heat proof: Preheating: 180 ±10℃ 90 seconds Soldering: 255 ±5℃ for 3 ±1 sec
机械冲击 Shock	Inductance change within ± 5% Without mechanical damage SMD Molding Ind	Drop down with 981m/s ² (100G) shock Attitude upon a rubber block method shock testing machinem, 3 tests.
振动实验 Vibration	Inductance change within ± 5% Without mechanical damage	Vibration frequency: 10Hz to 55Hz to 10Hz 60 seconds cycle Vibration time: 2 hours

老化测试

Aging Reliability

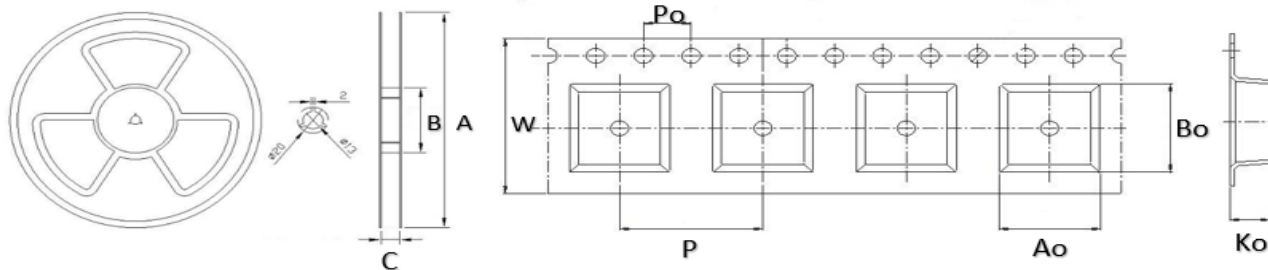
实验名称 ITEM	试验要求 Specification & Requirement	试验方法 Method Used
冷热冲击 Thermal Shock	Inductance change within ± 5% Without mechanical damage	-55℃, (30 mins) -> room temp. (5 mins) -> 125℃, (30 mins) -> room temp. (5 mins) 100 cycles
耐热性 Heat Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 85℃ ambient Duration: 1000 hrs
耐湿性 Humidity Resistance	Inductance change within ± 5% Without mechanical damage	Apply IDC current @ 60℃ ambient Humidity: 90~95% Duration: 1000 hrs
低温存储实验 Low Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. -55 ±2 °C for total 1,000 +4/-0 hours
高温存储实验 High Temp. Storing	Inductance change within ± 5% Without mechanical damage	Storing Temp. 125 ±2 °C for total 1,000 +4/-0 hours



产品编码 P/N	PSBHAA1608(0603)~3225(1210)	测试设备 TEST INSTRUMENT	Chroma: 3302 16502 Keysight: E4991
产品系列 Series	贴片大电流磁珠	测试频率 TEST FREQUENCY	100MHZ

载带卷盘尺寸 : (mm)

Packing Dimension



系列 Series	最小包装 MPQ	A	B	C	W	P	Po	Ao	Bo	Ko
1005	5000pcs	178	60	13	8.0	4.0	4.0	0.9	1.25	0.8
10075	5000pcs	178	60	13	8.0	4.0	4.0	0.9	1.25	0.8
160865	3000pcs	178	60	13	8.0	4.0	4.0	1.0	1.82	0.8
160808	3000pcs	178	60	13	8.0	4.0	4.0	1.04	1.82	0.95
141265	3000pcs	178	60	13	8.0	4.0	4.0	1.5	1.7	0.8
141208	3000pcs	178	60	13	8.0	4.0	4.0	1.5	1.7	0.95
201265	3000pcs	178	60	13	8.0	4.0	4.0	1.4	2.25	0.8
201208	3000pcs	178	60	13	8.0	4.0	4.0	1.5	2.3	1.0
201210	3000pcs	178	60	13	8.0	4.0	4.0	1.5	2.35	1.2
201212	3000pcs	178	60	13	8.0	4.0	4.0	1.5	2.35	1.4
201665	3000pcs	178	60	13	8.0	4.0	4.0	1.95	2.45	0.8
201608	3000pcs	178	60	13	8.0	4.0	4.0	1.9	2.35	1.0
201610	3000pcs	178	60	13	8.0	4.0	4.0	1.95	2.35	1.2
201612	3000pcs	178	60	13	8.0	4.0	4.0	1.9	2.3	1.35
252010	3000pcs	178	60	13	8.0	4.0	4.0	2.45	2.8	1.2
252012	3000pcs	178	60	13	8.0	4.0	4.0	2.35	2.8	1.35
322510	3000pcs	178	60	13	8.0	4.0	4.0	2.8	3.5	1.2
322512	3000pcs	178	60	13	8.0	4.0	4.0	2.9	3.5	1.15
322520	2000pcs	178	60	13	8.0	4.0	4.0	2.9	3.5	1.35
3010	3000pcs	330	100	13	12	8.0	4.0	3.4	3.4	1.2
3012	3000pcs	330	100	13	12	8.0	4.0	3.4	3.4	1.4
3015	3000pcs	330	100	13	12	8.0	4.0	3.4	3.4	1.7
3018	3000pcs	330	100	13	12	8.0	4.0	3.25	3.25	2.0
3020	3000pcs	330	100	13	12	8.0	4.0	3.4	3.4	2.2
4010	3000pcs	330	100	13	12	8.0	4.0	4.4	4.4	1.3
4012	3000pcs	330	100	13	12	8.0	4.0	4.4	4.4	1.3
4015	3000pcs	330	100	13	12	8.0	4.0	4.4	4.4	1.7
4020	3000pcs	330	100	13	12	8.0	4.0	4.4	4.4	2.2
4030	2000pcs	330	100	13	12	8.0	4.0	4.4	4.4	3.2

* 上述尺寸均为典型尺寸Typ. The tolerance of the dimensions is Typ





注意事项

使用本产品时，请注意以下事项

- ◎ 产品保存期限为12个月，保存条件：温度5~40℃，湿度10~75%RH以内，超过保存期限可能会使产品端子电极发生氧化。
- ◎ 请勿在极端环境下使用和保存（高盐，强酸，强碱，强辐射等）。
- ◎ 产品焊接前，请进行预热；预热温度与焊接温度之间温差建议控制在150℃以内。
- ◎ 产品焊接后需重新拆卸焊接修正时，请遵循规格书规定的条件范围；过高的加热温度以及反复的拆卸可能会导致产品失效。
- ◎ 产品请勿接触清洗剂，酒精等液体，这会侵蚀产品本体，从而导致产品失效。
- ◎ 产品焊接到线路板后，请注意不可因线路板整体变形或局部变形而施加给磁珠剩余应力，这可能会导致磁珠发生破裂，脱落，以致失效。
- ◎ 产品通电后温度会随电流的增大而上升，设计时请务必考虑留有余量。
- ◎ 过高的静电会对产品产生永久性损害，请注意静电防护。
- ◎ 产品通电过程请勿触摸产品任何部位，防止触电。
- ◎ 本产品作为磁性产品，设计时请务必考虑周边元器件与本产品可能产生的相互影响。
- ◎ 本产品适用于一般电子设备，如：AV设备，通信设备，家电产品，娱乐设备，计算机设备，个人设备，办公设备，计测设备，工业机器人等。且该一般电子设备需在常规的操作和使用方法环境下使用。
对于需要高度安全性和可靠性的，或者因本产品失效造成设备故障，误操作，运转不良等危及到人的生命身体及财产安全，以及对社会产生较大不良影响的特殊用途，设计使用前务必同本公司沟通，设计使用者如未取得我司书面同意状况下使用造成任何后果，我司不予承担。特殊用途包含但不限于如下清单：
 - 1 军用设备
 - 2 运输设备（汽车，轨道交通产品，船舶等）
 - 3 航空，航天设备
 - 4 发电控制设备
 - 5 核动力相关设备
 - 6 爆炸引燃控制设备
 - 7 交通控制设备
 - 8 关系到国防安全的设备
 - 9 其他被认定为特殊用途的设备

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ANNOUNCEMENTS

Please read this before using the product.

- © The product storage life is 12 months, Storage Temperature: TEMP. 5~40℃; RH10%~75%. Please use the product within the warranty period
- © Do not use or storage in locations where there are conditions such as gas corrosion (salt, acid, alkali, radiation etc.) .
- © Before soldering, be sure to preheat components: The preheating temperature should be set so that The temperature difference between the solder temperature and chip temperature does not exceed 150° C.
- © Soldering corrections after mounting should be within the range of the conditions determined in the specifications. If overheated, a short circuit, performance deterioration, or lifespan shortening may occur. Repeated disassembly may invalidate the bead
- © The cleaning agent can not be used for these products. This may corrode the bead
- © When embedding a printed circuit board where a chip is mounted to a set, be sure that residual stress is not given to the chip due to the overall distortion of the printed circuit board and partial distortion such as at screw tightening portions.
- © Self heating (Rated Current or Irms) occurs when the power is turned ON, so the tolerance should be sufficient for the set thermal design.
- © Too high static electricity will cause permanent damage to the product, please pay attention to electrostatic protection.
- © As a magnetic product, the design must consider the possible interaction between peripheral components and the bead.
- © The bead listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
If you intend to use the bead in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact PROD. Otherwise, PROD will not bear the serious consequences caused by product quality problems

- | | |
|--|---|
| 1 Military equipment | 8 Medical equipment |
| 2 Transportation equipment (cars, trains, ships, etc.) | 9 Other applications that are not considered general-purpose applications |
| 3 Aerospace/aviation equipment | |
| 4 Power-generation control equipment | |
| 5 Atomic energy-related equipment | |
| 6 Explosive ignition control equipment | |
| 7 Transportation control equipment | |

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